

RECORD OF TELEPHONIC INTERVIEW

On June 6, 2006, Applicants' representative discussed the above-referenced Office Action with the Examiner and his Supervisor. The double-patenting rejection was discussed and the Examiner indicated that Claim 19 of application 10/727,320 and Claim 1 of the instant application appeared to claim obvious variants of the same subject matter. Applicants representative indicated agreement and that Applicants would file a terminal disclaimer or cancel claims in at least one of the applications. The rejection under 35 U.S.C. §102 was discussed with respect to Claim 2, 12 and 16-17. The Examiner indicated that he reads "modifying" at col. 7 of Faucher, et al. (U.S. 5,404,543) as storing and "acting on" as retrieving a usage level. The Examiner cited col. 7 lines 38-58 of Faucher in support of his contention. Applicants' representative disagreed and indicated that the reference does not appear to provide enabling disclosure of storing and retrieving usage levels through input/output ports nor at context switches as recited in the Claims.

REMARKSObjections to the Claims

The Examiner has objected to Claim 15 as lacking proper antecedent bases for "said controller devices". Claim 15 has been amended to correct the spelling of "controlled". Therefore, Applicants believe that the objections to the Claims has been overcome.

Double-Patenting Rejection

The Examiner has provisionally rejected Claims 1, 3, 10 and 11 on the ground of obviousness-type double-patenting as being unpatentable over Claims 8-10, 16 and 18-19 of co-pending Application 10/727,320. Applicants have Amended Claim 1 to include all of the features recited in previous Claim 2, Claim 10 to include all of the features recited in previous Claim 12 and Claim 15 to include all of the features recited in previous Claims 16-17. Therefore Applicants believe that the double-patenting rejection has been overcome.

Rejections under 35 U.S.C. §102

The Examiner has rejected Claims 1-20 under 35 U.S.C. §102(b) as being anticipated by Faucher. Applicants respectfully

disagree. Amended Claim 1 (and similarly Amended Claims 10 and 15) recites:

"A device controller for coupling one or more controlled devices to one or more processors in a processing system, comprising:  
a command unit for sending commands to said one or more devices;  
at least one usage evaluator having an input coupled to an output of said command unit for evaluating a frequency of use of an associated controlled device;  
control logic coupled to said usage evaluator and further coupled to an input of said command unit for sending power management commands in response to said usage evaluator detecting that a usage level of said associated device has fallen below a threshold level, whereby said device controller power manages said controlled device without intervention by said one or more processors;  
an output port coupled to said at least one usage evaluator for reading a state of said at least one usage evaluator, whereby a state of said at least one usage evaluator may be stored external to said device controller; and  
an input port coupled to said at least one usage evaluator for setting a state of said at least one usage evaluator, whereby said state of said at least one usage evaluator may be restored from information stored external to said device controller."

[Bold text added for emphasis]

The structure recited in Amended Claim 1 enables reading to and writing from a usage evaluator through the recited input and output port so that upon a context (process or thread) switch, the state of the usage evaluator is preserved between process contexts, as recited in Amended method Claim 15.

The structure described in Faucher does not enable preservation of such state information and Faucher does not

describe any such action nor include an input and output port that enable such action.

In particular, in the passage of Faucher cited by the Examiner in the Telephonic Interview at col. 7, lines 38-58 and in the Office Action, Faucher describes a power management state machine 66 that modifies and acts on the values in power management scoreboard 64. However, both power management state machine and power management scoreboard 64 are internal to memory controller 20. No mention is made of an ability to read and store nor retrieve and write the state of power management scoreboard 64 so that the usage state of attached devices can be preserved between contexts, either external to memory controller 20 or internal thereto. Further, no coupling of power management scoreboard 64 to an input/output port for performing such action is depicted in the Figures of Faucher.

In the Office Action, in the rejection of canceled Claim 2, the elements of which are now incorporated in Amended Claim 1, the Examiner cites Faucher at col. 4, lines 25-57,; col. 6 lines 16-20 and col. 6 line 56 through col. 7 line 16 as disclosing an input port for setting a state of the usage evaluator. However, the cited passages describe no such action. The only input/output functions described in the cited passages, occurring at col 6. lines 48-57 is that of providing presence detect information so that the processor or memory controller can determine what banks

of memory are present and their attributes, and not the storing and retrieving of usage information as recited in the claims.

In the Office Action, in the rejection of canceled Claims 16 and 17, the elements of which are now incorporated in Amended Claim 15, the Examiner cites the "system command/interrupt" disclosed at col. 9, lines 56-66 in support of the context switch saving and restoring of the device usage evaluation state.

However, the cited passage refers to using the system command/interrupt to perform the determination of available/allowable power modes for the devices and does not mention storing and retrieving usage levels at context switches.

Faucher does not disclose behavior with respect to context switches in the sense of the present invention at all, that is, switching between contexts of separate execution processes in a multi-processing or multi-threading environment, and certainly does not disclose the preservation of the state of device usage evaluations between contexts associated with those separate processes or threads.

Finally, as mentioned above, Faucher does not provide enabling disclosure of any structure that can accomplish such state preservation, and in particular, does not disclose a structure that provides for reading and writing usage evaluator usage levels external to the device controller.

Therefore, for all of the reasons stated above, Applicants believe that the rejection under 35 U.S.C. §102(b) has been overcome.

Therefore, for all of the reasons stated above, applicants believe that all of the rejections and objections have been overcome.

CONCLUSION

In conclusion, Applicants respectfully submit that this Amendment is fully responsive to all aspects of the objections and rejections tendered by the Examiner in the Office Action. Applicants respectfully submit that they have persuasively demonstrated that the above-identified Patent Application, including Claims 1,3-11, 13-15 and 17-20 are in condition for allowance, and such action is earnestly solicited.

No fees should be incurred by this Amendment, but if there are any fees incurred by this Amendment, please deduct them from IBM Deposit Account NO. 09-0447.

Respectfully Submitted,



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